

NATIONAL PARKS

MAGAZINE



Wapiti in Yellowstone

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Fifty Cents

In the Balance: Washington's Alpine Lakes

By John F. Warth

FOR several years conservationists have been anxiously awaiting Forest Service decisions which would determine the ultimate fate of the Alpine Lakes Limited Area in the Cascade Mountains of Washington (see *The Salmon La Sac Country*, NATIONAL PARKS MAGAZINE, January-March 1956). The Limited Area of 256,000 acres lies in the midst of a remarkable wilderness still measuring two hours drive from the centers of population; it is serving as "backyard wilderness to a million people."

The hundreds of sparkling lakes, both lowland and alpine, are the region's best-known attraction. Numerous meadows, which once were lakes, burst into bloom with flowers every summer. Extremely rough, high plateaus dissected with deep, narrow canyons—this best describes the topography in general. At least two dozen outstanding peaks, several bearing living glaciers, provide spectacular backdrops for many of the lakes. Mount Stuart (9470 feet) is the second highest peak in Washington, exclusive of the five volcanoes. Softening the harshness of rock and snow are the forests, ranging from narrow extensions of coastal forests on the west side with their giant trees, mosses and ferns to the drier types on the east, notable for their great variety of species. Even the alpine regions are generously landscaped with mountain hemlock, alpine fir, huckleberry, heather and flowers of many kinds. This is one of the most friendly, liveable, easily-accessible wildernesses of all. The caliber of its scenery is believed to rank with the nation's best.

The Forest Service has now completed preliminary multiple-use management plans for the Salmon La Sac portion of the wilderness and the nearby Stuart Range. Dominant-use zones

for timber, recreation, wildlife, soil, water, etc. are depicted on colored overlay maps. Recreation zones a few hundred feet wide are proposed for the most important valleys. In these camouflage strips along roads, streams and lakes, logging would still be done, but selectively rather than by the usual patch-cutting method. Sizeable zones are proposed for wilderness-type recreation, but it was noted that these lie mostly above commercial timberline.

These overlay maps are of special interest to conservationists since they represent a newly-developed concept of multiple-use zoning. It is apparent that the Forest Service now prefers this extremely flexible type of zoning to the dedicating of definite areas as wilderness areas, recreation areas, and the like. The only possible advantage from the point of view of recreationists is that an administrator, if he were so inclined, could be fairly generous in reserving timber for recreation without fear of arousing opposition.

The disadvantages of this most flexible type of zoning are obvious. The

public would never know how much wilderness was being passed on to posterity. Whenever the demands for the commercial resources of an area appeared to be greater than the demands for high-class recreation, administrators could succumb without even a public hearing, their actions being rationalized by the belief that developments would open up the area to more people. Entry by seaplane or helicopter would not likely be restricted—uses already becoming well established in the Alpine Lakes Limited Area.

Experience has shown that unless the Forest Service has recognized the caliber of an area by dedicating it, an adequate basis can seldom be found for opposing mining roads, trans-mountain highways, power developments, and logging, even though they may clearly be not in the best public interest. The recent tragic loss of Baker Lake at the foot of Mount Baker is an example.

These preliminary management plans for the Salmon La Sac region and Stuart Range, if made final, would provide (Continued on page 15)

Cooper Lake, a lowland wilderness lake surrounded by a centuries-old forest, presents a fine view of the glacier-patched peaks along the crest of the Cascades of Washington. It is now threatened with immediate intensive logging.

John F. Warth



*NOTE: As outlined in the author's earlier article the alpine lakes are located some two hours' drive east of Seattle, Washington in the high mountain country between Stevens and Snoqualmie passes, south of the Glacier Peak region.

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ON THE COVER

With the coming of winter, the American Elk or Wapiti must search further and further for available sources of food. While this phenomenon is common to most wildlife species, it becomes even more critical on the overpopulated Northern Yellowstone herd winter range. Without the natural check of mountain lions and other predators, the herd literally causes its own starvation by killing—through overuse—the grasses, aspen and willow which form its diet. The National Park Service faces the problem of how to reduce the herd to the carrying capacity of the range without changing long-standing park policy against public hunting.—Photo by Franz Lipp

THE NATIONAL PARKS AND YOU

Few people realize that ever since the first national parks and monuments were established, various commercial interests have been trying to invade them for personal gain. The national parks and monuments were not intended for such purposes. They are established as inviolate nature sanctuaries to preserve permanently outstanding examples of the once primeval continent, with no marring of landscapes except for reasonable access by road and trail, and facilities for visitor comfort. The Association, since its founding in 1919, has worked to create an ever-growing informed public on this matter in defense of the parks.

The Board of Trustees urges you to help protect this magnificent national heritage by joining forces with the Association now. As a member you will be kept informed, through NATIONAL PARKS MAGAZINE, on current threats and other park matters.

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Earthshaking Events In Yellowstone

By Kelly Motherspaugh

Kelly Motherspaugh began work as seasonal naturalist in Yellowstone on August 17, 1959, but he does not believe this had anything to do with the events he describes in the accompanying article. His previous experience has been primarily in horticultural work with the Department of Agriculture and others. For the past seven years he has taught Adult Education classes in Florida. Several of his articles have been published in *Trailer Topics*. Photographs—including the Golden Gate road rockslide at left—are by Yellowstone Park, Wyoming, National Park Service.

JUST BEFORE midnight on Monday, August 17, Yellowstone National Park was settling down to a quiet night. The visitors, tired from hiking the terrace and geyser trails, were sleeping. The concessioners were putting their dining rooms and coffee shops to bed. Their employees were sleepily talking over the day just past and planning their tomorrows. The park rangers, except for the few on protective duty, were in bed and everything was calm and peaceful. About 18,000 people were in the Park: 4000 employees, 8000 visitors in hotels and cabins, and approximately 6000 visitors in the various campgrounds.

At 11:37 p.m. Mountain Standard Time, Old Mother Earth shrugged her shoulders and almost caused a catastrophe. One of the strongest earthquakes ever recorded in the United States struck the peaceful scene and, in the next twenty-four hours, we were to have more than a hundred additional shocks, one with a magnitude of 6.75 on the Richter scale. The initial shock, with a magnitude of 7.1, was comparable to the force delivered by two hundred atomic bombs of the size that destroyed Hiroshima in 1945. The epicenter of the quake, the point on the earth's surface directly over the source of the shock, was just outside Yellowstone National Park's western boundary, northwest of Old Faithful Geyser, and the origin of the quake was 20 to 25 miles deep as compared to the usual depth of 10 or 11 miles.

Damage, both personal and property, was heavy in the Hebgen Dam area northwest of the little town of West Yellowstone, Montana. This area is outside Yellowstone National Park in the Gallatin National Forest. Seven miles down Madison Canyon from the Hebgen Dam a huge slide occurred minutes after the initial earthquake, blocking the river and forming the new "Quake Lake."

The river was already at flood stage before the slide occurred. This rush of water came from tidal-like waves which washed over the Hebgen Dam in three tremendous surges. They were caused by disturbances to the lake bottom. In the center portion of the lake, behind Hebgen Dam, there was a subsidence of several feet. The former shoreline on the north and south sides in the middle section is now under

several feet of water. The Madison Arm of Hebgen Lake raised several feet, thus actually slopping water over the dam. These waves surged westward to a depth of 2 or 3 feet over the entire 700-foot length of the dam, which is an earth-fill, concrete-core structure. The early rush of water down the canyon caused the false report that the dam had failed.

The reason for a slide of such magnitude so far away from the center of the quake was the nature of the rock formations present. On the south side of the canyon, where the slide started, the forest-covered rock was a schist with layers lying parallel with the slope. Due to the slippery mica in the rock and the softness of the schist, this formation was highly unstable. It was supported by a dolomite lens or ridge which extended diagonally across the base of the slide formation. The shock of the earthquake shattered this buttress and the resulting slide pushed the dolomite formation ahead of it. This mountain of material finally came to rest at a height of some 400 feet up the opposite slope after crossing the Madison River Canyon. The minimum height of the slide is approximately 150 feet above the old river level, and for about three-fourths of a mile the canyon is filled with debris. This is the new or natural dam which forms "Quake Lake."

All the deaths caused by the quake occurred in the campgrounds below Hebgen Dam and in the Cliff Lake and Wade Lake areas approximately 12 miles to the southwest.

There were no deaths and no serious injuries within Yellowstone National Park. There were slides from Mount Holmes and Antler Peak, but these are in isolated wilderness country and caused no real concern. The only serious damage was caused by rockslides which came tumbling down steep cliffs to block roads at Golden Gate, Obsidian Cliff, Gibbon Falls, Virginia Cascades, Firehole Canyon, and between Madison Junction and the West Entrance. Over 65 miles of park roads had to be closed for varying lengths of time. All but 10 miles have now been reopened.

In Yellowstone National Park proper, Old Faithful Inn was hit the hardest of any of the buildings. Water pipes in the east wing were broken

and the water had to be cut off. Because of the fire hazard from wet wiring, this wing was closed and evacuated. The Lodge Recreation Hall was immediately made available for sleeping space and park busses were used to shuttle visitors from the Inn to the Lodge. The Old Faithful area was isolated for a short time. The road through Firehole Canyon was covered at two places by slides more than ten feet deep. The road to West Thumb was dangerous because of slides in the vicinity of Craig Pass. At 1:43 a.m. the chimney over Old Faithful Inn dining hall collapsed and the lobby was closed because of the danger of falling chimney rocks.

Prompt action by the park ranger force at the time of the earthquake and the calm attitudes of the park concessioners averted a major panic. All the necessary ingredients for a panic were present. An unusual phenomenon, darkness, isolation, and a lack of information could easily have resulted in public disorder. The park rangers immediately went to the campgrounds and to other places where the visitors were congregated and spent the remainder of the night reassuring them.

At Canyon Village, within a few minutes after the first shock was felt, the Yellowstone Park Company manager for that area had the coffee shop open and was serving free coffee and rolls to everyone who came in. This gave the visitors a well-lighted place to get together to talk things over and was the nicest thing that could have been done at a critical time.

The earthquake caused a park emergency but not a disaster or a catastrophe. It could easily have developed into a mad rush to get out of the area. Newspaper accounts inferred that there was blind panic in Yellowstone National Park and that people were running madly about trying to get out. This was not true in the park. There could have been chaos with many wrecks and resulting injuries and even deaths if all the visitors had tried to leave at one time. Unfortunately, newspaper reporters, who must have been miles away from the scene, wrote harrowing, heart-rending reports of the terror and anguish among the visitors. Those of us who were here at headquarters at Mammoth Hot Springs know that this was not true.



The road near Gibbon Falls was part of the sixty-five miles of Yellowstone Park roads closed because of earthquake damage.

Everyone was apprehensive, they wanted information, and many asked if there was anything they could do to help. The general opinion seemed to be that they would not want to go through such an experience again, but since they were here and it did happen, they would not have missed it for anything. The fact that four of the five entrances to the park were open at all times had a lot to do with the lack of hysteria. The visitor, knowing that he could get out, seemed to lose the desire to do so.

The greatest calming influence during the early hectic hours of the earthquake was the marvelous work done by the employees. National Park Service and concessioner employees alike set a wonderful example of coolness and calmness. There were no individual heroes. None were needed, for the emergency was never allowed to develop into a situation that required heroes. Instead, there was a spirit of "business as usual" that calmed the jittery and brought out the best in everyone. There were many occasions when young concessioner employees calmly reassured people twice and three times their age and tried to explain things to them. As one coffee-shop girl said later, "Many of us grew up that night."

During the violent tremor the next morning, when people were rushing out of the buildings and when just one yell of "let's get out of here" could have touched off panic, the employees

stayed at their posts. (Perhaps they were too scared to move, but the effect was the same.) American people are inclined to scoff at and ridicule expressions such as "esprit de corps," but, when the need arises, everyone buckles down and accepts the responsibilities that may fall upon him. All worked together with a deep realization that the visitor was depending upon them and they became a team as never before. The members of this team will always have a special kinship toward each other and whenever or wherever they may meet, the first words will probably be, "We were there."

No one complained because things were not normal, and if at times we fretted because the smooth clockwork of headquarters operations seemed to be out of gear, we had only to look out by the post office to see the white tent where the superintendent and his staff were working under primitive conditions, more reminiscent of the founding of the park in 1872 than of 1959.

Narrowing the public reaction down to one small group, this is what happened at the foot of Liberty Cap on the morning of August 18th. Fourteen people had gathered for the daily nature walk on the Mammoth Hot Spring Terraces and, of course, the main topic of conversation was the quake. Then the terrific shock of 8:26 a.m. came and really rocked us. As the tremor was at its strongest, the chimney of the United States Park Commissioner's house about a hundred yards from us came tumbling down. In the silence that followed, one of the spontaneous things took place that is characteristic of American people. We seem to have the facility to joke about anything, at any time. One of the girls working at Mammoth Hot Springs saved the day. I suspect that she must have been just as nervous as the rest of us, but her little voice popped up with, "They can't do that to the commissioner!" Everyone started to laugh, perhaps too loudly at such an inopportune moment, but it was a remark that will be remembered forever by that group. Later, during the walk which did proceed a few minutes behind schedule, waves of laughter would start and travel down the line as they thought of the experience just witnessed near the home of the park commissioner.

One Park Service employee remembers these details of the August 17th events:

"A group of ranger-naturalists gathered in the area just outside the rangers' cabins at Mammoth immediately after the first tremor. It was very light out and we could see what we took to be a cloud of fog extending down the valley of the Gardner River. Instead, it was dust from the slides on the upper face of Mt. Everts. Sheepsteater Cliff and Bunsen Peak also had clouds of dust.

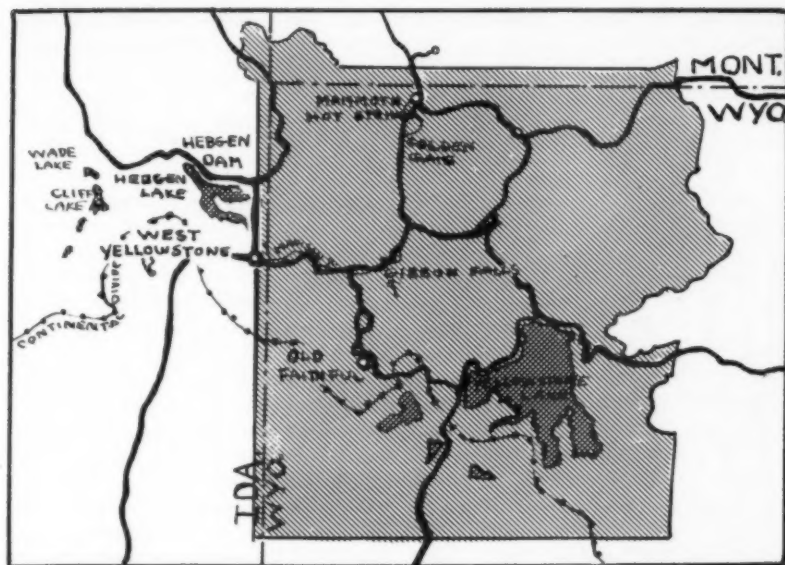
"We found that no one talks during a tremor. Usually, the last words are 'here we go again,' and the first thing heard after the shock subsides is a sigh of relief. Each person seems to be completely awed by the almost unbelievable power displayed. Perhaps each person is thinking that this may be the big one.

"The bears, in Yellowstone, get the blame for everything, even earthquakes. Some visitors thought that bears were under their cabins. In the trailer camps people were sure that bears were under the trailers. At Lake cabins, a man was seen running around his cabin with a great big axe, telling his neighbors that there was a bear on his cabin. He could feel it shake the whole place. In the employees' camp at Mammoth, a ranger from California and his wife would not come out of their trailer for fear of being laughed at again. It seems that about a week before, they had been awakened by the trailer shaking. They yelled 'Earthquake!' and piled out. It was a bear under the trailer; so on the night of the quake, they felt the trailer shake, but were not going to be fooled again.

"One ranger-naturalist, mercifully unidentified, is supposed to have wisecracked just as a particularly severe shock ended, 'Whose FAULT was that?'"

An incident occurred in the life of Superintendent Garrison that he will not be allowed to forget. At almost 5:00 p.m. on Tuesday, the day after the earthquake, there was a meeting of the various park division heads to discuss the actions taken so far and to plan ahead. Superintendent Garrison happened to look down and there were his pajamas showing below his uniform trousers. He had put the uniform on over the pajamas the night before and had forgotten them completely.

The park itself and the orderly processes of business have been affected by the earthquake of August 17 and the tremors which followed. We did lose our chance to exceed the travel



The map (at left) shows the location of the hard-hit Hebgen Dam area just outside Yellowstone's western boundary in the Gallatin National Forest. All deaths occurred in the campgrounds several miles below the dam and in the Cliff and Wade Lake areas. Clepsydra Geyser (below) in the park started erupting with the first quake and is still erupting constantly in its "wild phase" from all four vents.

figure record for 1957, perhaps more because of the irresponsible publicity than of the quake itself. The annual pageant depicting the birth of the national park idea in 1870 at Madison Junction had to be cancelled.

It is too early to predict, with any degree of accuracy, what the effects of the earth tremors will be on the natural features of the park. Park naturalists are now making a master inventory of the known changes to earth features and thermal activity. Some of these changes recorded so far are:

Giantess Geyser, which usually erupts infrequently, started simultaneously with the quake and erupted continually for more than 100 hours. Its usual duration has been 30 hours or less. Grand Geyser erupted following the quake but has been dormant since then. Economic Geyser, which has been dormant since the 1920s, is now active. Castle Geyser is now erupting at intervals of 4 to 9 hours instead of the usual 15 hours. Great Fountain Geyser, which had been erupting at intervals of 12 hours, is now playing at much shorter intervals of from 3½ to 9 hours. White Dome Geyser was inactive for a few days but its activity is slowly increasing. Cascade Geyser, which had not erupted in 40 years, started with the first tremor and has been erupting periodically ever since then. Clepsydra Geyser started erupt-

ing with the first quake and is still erupting constantly in its "wild phase" from all four vents. Morning Geyser, which had not been as active this season as in previous years, started erupting with the quake, erupted continually for two weeks, and then lapsed into dormancy. Fountain Paint Pots are much more active. Their water table is rising and the area of action is enlarging. Sapphire Pool erupted to a height of 75 feet after the quake. It had 72 major eruptions in a period of eight days and is now bubbling furiously. The water level in Morning Glory Pool has dropped from four to six inches below normal. Several unnamed springs, with no previous known record of geyser activity, have become eruptive, some on a major scale.

Geysers and hot springs are dynamic, not static. They are ever changing, ever different. Changes are a normal procedure. Outlets of springs change from place to place as layer after layer of travertine or silica is deposited. Some geysers become more active and others fade away to inactivity, perhaps to come back stronger than ever. Nothing is permanent. Even Old Faithful, the symbol of regularity, normally has intervals that vary from 33 to 93 minutes. Whether these changes will be accelerated or retarded by the earthquake, only time will tell. ■



This aerial view looking downstream in the Madison River Canyon outside the park shows the huge slide in the immediate foreground which now forms "Quake Lake".





A large specimen of Organ Pipe Cactus.

National Park Service

Three-in-One Desert

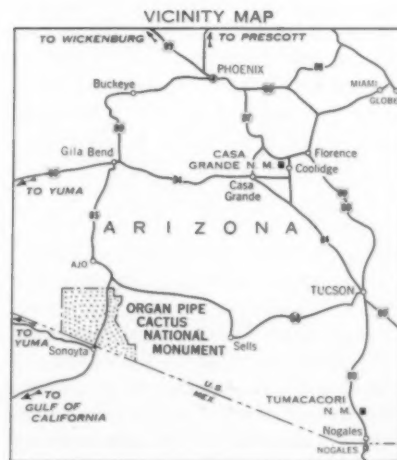
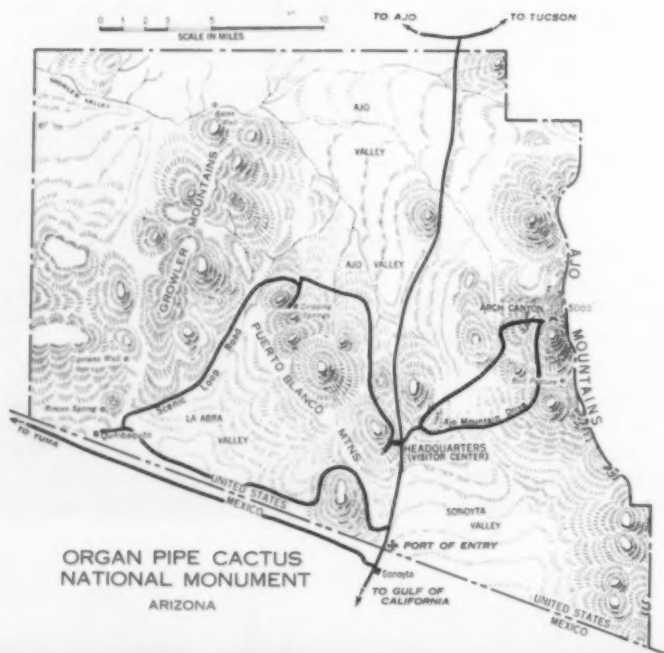
By Natt N. Dodge

“WHERE you headed, mister?” The filling station attendant was clearly making conversation, and our license plates shouted “tourists.” I grinned. “Nowhere in particular,” I confessed, “except that we’re looking for the place where summer goes to spend the winter. We heard that it was somewhere in Arizona. Can you tell us?”

It was his turn to smile as he hung the hose back on the pump, glanced at the meter, and reached for my credit card. “Sure can, mister,” he answered promptly. “It’s just down the road a piece, where the organ pipes grow.”

“Organ pipes?” I questioned. “What do you mean ‘where they grow?’”

He turned the sales slip for my signature and leaned back against the wall with a far away look in his eyes. “Down south of Ajo, right smack on the Mexican border, there’s half a thousand square miles of the prettiest desert wilderness in the U.S.A. It’s the only place outside of Mexico where the



hills are covered with great clumps of the cactus that folks call organ pipes, and where the organ pipes' little cousin, the senita, spreads along the sandy washes. From November through April, that's shirtsleeve country, believe you me, mister! If I were summer, I'd go down there to spend the winter, that's for sure."

Impelled as much by curiosity as by belief in the picture painted by the filling station man's words, we checked the map, found the location of Organ Pipe Cactus National Monument, and headed that way. Since we had camping equipment in the car, we figured that maybe we'd spend a night there and then drive east to visit Tucson and vicinity. Instead we spent an entire week in a glorious, outdoor, winter vacationland.

During that week we not only learned more about the great Sonoran Desert than we knew existed (in fact we previously didn't know that the desert itself existed), but we explored some amazing back country of the monument where few people other than park rangers ever set foot. The memory of that experience is something that will stay with us for many a year.

Like most tourists, we drove in at the monument's north entrance and down the highway to the visitor center. We were especially impressed with the rugged appearance of the range of mountains forming the eastern skyline on our left, so we were quite agreeable when the park ranger at the information desk suggested that we take the Ajo Mountain Drive. He said it penetrated the foothills of that range and would give us a good idea of the spectacular part of the desert. We told him this country didn't fit our ideas of a desert—sand dunes, you know—with so much green vegetation, even flowers in bloom in February.

Since we didn't know how long we would want to spend on the drive, we asked where we could set up camp, and the park ranger told us how to find the campground, a mile south of headquarters with a splendid view toward the south. After our tent was up, and while we were eating a bit of lunch, a camper from a trailer nearby strolled over. He said the mountains we could see to the south were the Cubabi Range well over the line in Mexico, and that it is only sixty miles to Punta Penasco

and excellent fishing in the Gulf of California. He urged us to look at the museum exhibits in the visitor center before taking the drive and to pick up a guide leaflet at the information desk. Informing us that the park naturalist would present an illustrated talk that evening in the visitor center lobby, he advised us to attend and offered to bring a couple of chairs for us (each person attending the talk was supposed to bring his own chair).

Equipped with a guide leaflet, we received our real introduction to the Sonoran Desert. As we slowly followed the dirt road—winding among the masses of desert vegetation—stopping at each numbered stake along the way and reading the corresponding paragraph in the guide leaflet, we became aware that in this national monument three types of Sonoran Desert merge. Thus the monument contains desert manifestations illustrative of three types—a three-in-one desert.

Least spectacular is the vegetation of the California microphyl desert characterized by such widespread plants as creosotebush and bursage. In general, plants in this type of desert are characterized by small leaves, the plants thereby reducing water lost through transpiration. This is the type of desert found throughout level lowlands between mountain ranges, and it extends westward to the Colorado River and far beyond. Less common plants include the smoketree, found along sandy washes, the spiny crucifixion thorn, and the scarlet-flowered desert honeysuckle or chuparosa.

We learned that certain animals find their essential food, shelter, and other requirements among plants of a definite group, and are usually present where the plants are abundant. To-

gether they make up a plant and animal association or community. For example, the Arizona round-tailed ground squirrel forages among the annual grasses and ephemeral herbs of the open desert, and harvests the fuzzy white fruits of the creosotebush. He digs burrows in the silty soil, retreating to them to hide from his enemies and in summer to escape the heat and bright sunlight of noonday. Such lizards as the desert iguana and the gridiron-tailed lizard are at home in this same environment where insects on which they feed are abundant. Both of these species are swift of foot, hence are able to escape their enemies in the open. Others, such as the heavy bodied chuckwalla, prefer rocky hillsides and canyon bottoms. He escapes by crawling into crevices among the rocks and wedging himself tightly by inflating his lungs with air. Many desert animals are abroad at night, especially during hot weather, and hence are rarely seen by monument visitors.

Much more spectacular is the vegetative growth of the Arizona succulent type desert which covers much of southern Arizona eastward from the monument to the Santa Catalina Mountains near Tucson. Plant growth is more luxuriant on the sloping outwash plains and alluvial fans or "bajadas" bordering the bases of the mountain ranges. Rainfall, although limited and uncertain, is considerably greater in this region to the east than it is west of the monument; hence the vegetation is more abundant, varied, and lush. The route of the winding Ajo Mountain Drive, throughout most of its course, is flanked by wide expanses of upland or steep foothill slopes covered with saguaros, patches of cholla, clumps of prickly pear, and many shrubs including the hillside palo verde. Sandy channels of desert washes are marked with a dense growth of shrubs and trees, commonest of which are the blue palo verde, mesquite, and ironwood—all members of the pea family and all beautiful when in blossom during April and early May. Rocky lower slopes of the Ajo Mountains support, in addition to the other succulents, many spectacular clumps of the unusual organ pipe cactus for which the monument has been named.

Presence of the organ pipes along with other species of semitropical

Organ Pipe Cactus blossoms open at night in May.

National Park Service





National Park Service

Rarely seen by visitors because of its nocturnal habits, the little ringtail prefers the rocky canyons of the mountains.

plants such as the elephant tree, the rare senita cactus, and the yerba-de-fleche, a close relative of the Mexican jumping bean, indicate a region that is relatively frost free. This warm finger of the Mexican tall-cactus type desert extends northward along the valley of the tiny Sonoyta River into the beautiful, mountain-bordered pocket that is Organ Pipe National Monument. Nowhere else does it cross into the United States. Here, then, is a blending and merging of the three types of Sonoran Desert resulting in a rich and varied range of plant and animal communities such as occurs nowhere else north of the border.

It was fortunate that we had established camp before starting on the drive. When we reached Arch Canyon, about mid-afternoon, and came to the small parking area a short distance beyond, we found the beginning of Bull Pasture Trail which leads two miles back into the mountain fastnesses of the Ajo Range.

Already fascinated with the many surprises given us by this amazing region, we decided on the spur of the moment to take the hike. Leaving our car at the turnout, and carrying only our cameras, field glasses, and a canteen of water, we followed the trail rising gradually up a small side canyon and then across the western face of a rugged ridge. As we worked our way higher and higher, the scenery to the south and west became more and more

impressive. Occasionally we paused for breath and to marvel at the view which, in the clear air, seemed to push back the horizon to infinity. Here, in February, the sun gave a pleasant warmth while the invigorating breeze was just sufficiently cool to make hiking comfortable.

"This is it, all right," I announced, and to my companion's inquiring glance I added, "The place where summer goes to spend the winter."

As we turned a bend in the trail, the clatter of rolling rocks attracted our attention upward in time to reveal three large animals clambering toward the top of the ridge above. As they reached the crest, they stopped and looked down at us. Silhouetted against the sky, a chunky bighorn ram and two slender ewes gazed at us curiously. While we reached for our cameras, the trio scrambled to the top of the ridge and disappeared.

Dusk was falling as we returned to our car, so we drove back to headquarters in the twilight with the southwestern sky gradually fading from pale pink and saffron to the deep blue velvet of an Arizona night. Just before coming to the highway, we had a glimpse of a bobcat as it crossed the road—its eyes for a second, catching the gleam of our car's headlights. Although we stopped, hoping for a better look, it had faded into the shadows among the desert shrubs.

Our friend of the campground kept his promise and brought chairs for us to the park naturalist's program in the lobby of the visitor center. Illustrated with color slides, the talk convinced us that there was still much more to be seen in the monument, and we decided to spend the following day taking the forty-mile loop drive circling the Puerto Blanco Mountain Range to the west. During the night we were awakened by a serenade of coyote voices, the chorus of the desert, seemingly originating on the hillside only a hundred yards back of the campground.

The forty-mile loop drive took us through much of the same type of desert as we had crossed on our trip to the Ajo Mountains. However, there were fewer organ pipes and more of the non-succulent vegetation such as the ocotillos with their long, wand-like thorn-covered branches. Some of the springtime ephemeral plants were al-

ready beginning to blossom. Mexican poppies and owl clover were in bud pointing to the urge to bloom and produce seed before the arrival of hot days and drying winds. These annuals live through the dry seasons in the seed stage, thereby escaping the rigors of drought, and are ready in the soil to be awakened by the moisture of rain in December and January.

The last part of this trip was especially interesting, beginning with the verdant growth of plants and the number and variety of birds we found at Quitobaquito Springs near the southwestern corner of the monument and the turning point of the drive. In such an arid region, the presence of permanent water not only gives amazing stimulus to growth of some desert plants, but provides a suitable habitat for other species, such as cat-tails, which seem completely out of place in desert surroundings. Along the edges of the small pond and in the several tiny trickles coming from the warm springs to the pond, the water was alive with minnows, some of them up to two inches in length. The park naturalist told us later that these are called desert pupfish, and that they can endure water temperatures ranging from a few degrees above freezing to 100 degrees Fahrenheit. They thrive in water containing a high percentage of mineral salts.

Among the birds we saw at Quitobaquito were vermilion flycatchers, phainopeplas, cardinals, and mourning doves. There were several coots on the pond, which was choked with water plants, and also a baldpate duck. During the hot weather, birds are much more numerous, and in spring and fall many species of migrating waterfowl stop briefly at this tiny oasis. Monument records show that Dr. Max Hensley, an ornithologist who made studies of the bird life at Quitobaquito, counted in one day 477 individual birds representing 22 different species.

Quitobaquito also has considerable historical significance. It was an important watering spot on the infamous Camino del Diablo (Highway of the Devil) which was first laid out by Father Kino, the pioneer priest, about 1691. It later became a heavily traveled desert route between Sonora, Mexico, and the Pacific Coast. During the gold rush of 1849, some of the gold seekers

and many of their beasts of burden died of thirst along its arid route.

Returning from Quitobaquito on the last leg of the forty-mile drive, we followed the narrow, winding road that in many places closely parallels the international boundary. In this part of the monument, along the edges of sandy washes crossing La Abra Plain and in the shallow canyons of the Sonoyta Hills, the senita or whisker cactus thrives. Somewhat similar in growth habit to the organ pipe cactus, the senita has much shorter, stouter, less fluted stems. Older plants are characterized by a dense growth of long, hair-like spines at the ends of the stems.

Having seen all portions of the monument accessible to visitors in their own automobiles, we were eager to get into the much more extensive back country which can usually be reached only on foot or horseback. By good fortune we were on hand at the visitor center when a couple of park rangers were leaving on a jeep patrol into the Bates Well portion of the Growler Range. We offered to take the place of one of the rangers to help build a

road where washouts had occurred, remove obstacles, or shovel out the jeep in case it should get stuck. This plan worked out so well for all of us, since it was not necessary for two members of the monument's short-handed staff to go along, that two other patrols were worked out for the following days. One took us back into the Montezuma Head section of the north end of the Ajo Range, and on the other we followed the west boundary of the monument between the Growler Range and the Cabeza Prieta Wildlife Refuge. On that trip we saw a band of six pronghorn antelope and three collared peccaries.

Thinking back over our experience, we are impressed with the coincidence, interesting but perhaps of no significance, that features of Organ Pipe Cactus National Monument are grouped in threes. First, the monument is a crossroads of three phases of the Sonoran Desert; the California microphyl, the Arizona succulent, and the Mexican tallcactus. Second, desert plants within the monument are of three major types in their methods of meeting conditions of deficient and

uncertain rainfall; drought-resisting, drought-evading, and drought-escaping.

Lastly, the National Park Service has provided three degrees of development to meet the desires of the visiting public. The main transmonument highway and the visitor center and its exhibits are satisfying to the "pavement driver" who wishes to come, get a quick glimpse of the area, and be on his way. For the more interested and leisurely visitor who desires to stay for a while to see and learn about features of the desert, there is the campground and the two loop drives. Finally, for the true conservationist who wants to see the desert wilderness in solitude, and to observe the native animals going about their daily business uninfluenced by mankind, there is the magnificent back country. In the roadless Growler and Ajo mountain ranges, the scenery is serene, unspoiled, and inaccessible except to those who are willing to take the time and undergo some of the inconveniences and discomforts necessary to reach it and enjoy its beauty unimpaired. ■

Sometimes called "Uncle Sam's native cactus garden," the monument protects far more than the Organ Pipe Cactus for which it is named. Within its boundaries are found three types of Sonoran Desert—the California microphyl, the Mexican tallcactus and (below) the Arizona succulent.

National Park Service





A naturalist interprets the glacial Ice Age drama portrayed at Mount Rainier National Park, Washington.

National Park Service photo by George Grant.

The Interpretive Enterprise

By Philip C. Ritterbush

THE IMMORTAL welcome of Emma Lazarus' poem on the base of the Statue of Liberty includes these lines:

Give me your tired, your poor, your huddled masses yearning to breathe free.

It is well that these words have become part of our park heritage, for they might well speak of the peace and solace which await the national park visitor. It has long been so; in that excellent book, *Our National Parks*, Freeman Tilden quotes John Muir as having written sixty years ago:

Thousands of nerve-shaken over-civilized people are beginning to find that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life.

The thousands have become dozens

Mr. Ritterbush is a Rhodes Scholar and a PhD candidate at the University of Oxford. While an undergraduate at Yale he was editor of the *Yale Mountaineering Club Journal*. He first visited Rocky Mountain National Park in 1953 to collect butterflies for the Carnegie Museum in Pittsburgh, and since then has spent four seasons in extensive exploration of that park.

of millions; they flee more than over-civilization in an age of deep psychological unrest, and leaving our great cities in unending streams of automobiles, they head for the gates of recreation and wilderness areas. The National Park Service has responded to this challenge with Mission 66 and these are days of thoughtful planning for the problems which now face the parks or may soon arise.

The problems of interpretation are many and programs developed to serve the needs of thousands may not be best suited to the new and embarrassing needs of the millions. Unhappily, one gets the impression that the pattern of the visit is changing as well. In the early days of the parks, visitors came to stay. Bracing climates and pure air bathed their lungs for days at a time; they roamed slowly through the forests and in their leisure found new vistas or the majestic company of wild animals, and in the stillness found that a serenity of spirit gradually infused them, banishing confusion and cares. Perhaps this is to idealize those simple years, but certainly the visitor's experience differed from what it is today.

Visitors no longer come to stay; they come to see. And they are by no means sure what they're looking for.

A frequent question is, "Say, Ranger, where's all the beauty you're supposed to have out here?" Every year more and more people come to the parks for less and less time. The country blurs past their automobiles for thousands of miles and then they find themselves back home trying to recall what they have just seen. Not unusual was a question at Glacier National Park, "Ranger, this is our third national park today. What do we see?"

It is futile to maintain a system of parks if the people do not understand what they represent. An inevitable consequence of such misunderstanding is abuse: the vandalism and unintentional damage which is in most areas a menace to their wilderness quality, in some, a menace to their very existence. Further consequences of such misunderstanding are the frequent requests for ruinous and unsightly development schemes.

But more than this, the visitor described above cannot be deeply satisfied with his experience. Granted, he is seeing new sights, entertaining his family, and producing a flattering figure on his speedometer, but he is using the resources of his parks for a petty and trivial purpose, deriving little profit from the unseen, unsuspected, treasures they contain.

Our parks are more than nature or wilderness reserves, more than scenic playgrounds; they are stages in a great pageant. Their scale and scope speak of vast powers working to produce a landscape. In the distant places of our parks undisturbed wild creatures go about their interesting, sometimes charming, lives. Their presence cannot be sensed from the roadside; the wildlife of some parks is but rarely glimpsed, even in the least visited spots. But many visitors, knowing little of this, content themselves with a scattering of a few peanuts.

Everywhere there is some tiny thing—a flower, a jewel-like crystal, a fossil or relic—to bear witness to the intricate and beautiful complexity of the world. Occasionally ruins, unseen by the hurried visitor, speak of another race of men who tenanted this land a thousand years ago. The timelessness, the beauty, and the wonder of it all are preserved in our national parks for all to see, but few to comprehend. And in a time when the visitor most

deeply needs the delight to be found in these things, he is less likely to find them.

This problem has always been recognized by the National Park Service. As long ago as 1917, a division for education, headed by Robert Sterling Yard, was organized to interpret the historic and wilderness areas to those who visited them. Publications were written on plant life, geology, and human history. Nature guides led trips to outstanding areas, explaining the features and unrolling a rich fabric of history to the visitors who came. Museums were built, lantern slide shows begun, and a complicated pattern of visitor services developed to meet the need. The rich and varied ranger-naturalist services attained their present growth and are still expanding, but the spiralling number of visitors and their reluctance to leave their automobiles has lessened the effectiveness of traditional programs.

Especially during these boom years the parks face a severe challenge in handling this increase. How wave down a speeding car to identify roadside trees? How tear hands from a steering wheel to feel the rushing coolness of a mountain stream? How instill a desire to pause and drink in the serene calm of placid rivers or attend the silence of a sunset? The problem is real, it is important, and it is likely to get worse before it gets better. It might be a good idea to pause at this point for a closer look at interpretation in action.

A typical contact between the visitor and a ranger-naturalist might take place at Gettysburg National Military Park. The visitor looks over all that remains of that mighty struggle, without much idea of what took place there. An indefinable aura of sacrifice hangs over the scene, but it is vague and hard to grasp. Perhaps he joins a small party grouped about a ranger-naturalist at the museum, or at one of the parking areas. He moves slowly along the ground hearing an explanation of troop placements. His guide's vivid eloquence calls up the noise of cannon and evokes a vision of battle lines.

"This, ladies and gentlemen, is the very spot." A curtain seems to rise before the visitors, and Confederate horses charge across what had a moment ago been an empty meadow. The scene comes alive at the interpreter's call, and as his narrative draws to a close, his audience leaves with an awakened sense of what had happened there. Shyly, a man and his wife step forward, thank him, and walk thoughtfully back to their car. The rolling meadows have been invested with a new significance. The visitor sees the same objects he had noticed an hour earlier, but now they occupy key spots on a vivid and memorable tapestry of events.

Again, in a wilderness national park, a naturalist is conducting a party into a high mountain gorge. As they progress atop a long ridge, the naturalist points out the sharp boulders strewn

At Fort McHenry National Monument and Historic Shrine, Maryland, a relief map is used as an interpretive device to aid the park historian's story of the bombardment which inspired the writing of our national anthem.

National Park Service Photo by Hans Marx





Maurice Sullivan

Geological understanding can be gained from explanations of the origin of cave formations. Lehman Caves National Monument, Nevada.

about. He pauses to call the group's attention to the smooth valley floor below. Suddenly, rounding a corner on the path, everyone looks ahead to a glacier which lies far above. Now is the time to knit all the details together in a full explanation.

The ranger-naturalist evokes a vision of the valley filled with a great tongue of ice, carrying rubble like a giant conveyor belt, and leaving it in long ridges or "moraines" to either side. He speaks simply, organizing his tale about the evidence at hand, but leading on to visions of greater scope. The drama of the Ice Age is enacted before them. He explains how to recognize glacial features wherever they are to be found. Never again will the landscape be devoid of interest to his auditors. Before, it had been a tangled mass of ridges. Now it is alive, the changing product of forces everyone can understand. Alert and interested, the visitors will look for similar evidence everywhere they go.

It is also to be hoped that their guide mentioned briefly that there is a great deal about the Ice Age which no-one understands; thus, he is united with his group in having unanswered ques-

tions as well as enthusiasm. For his listeners the interpretive enterprise has reached a climax, bringing a vision of the entire out-of-doors and opening up a perspective back to the beginning of time.

This is the best answer to the visitors' problems. This is the way to endow the parks with new significance. Interpretation, with every aid that science can marshal, is reaching more and more of the park visitors and is leading them to a sound appreciation of the human and natural history of the areas they visit. These services cannot be expanded suddenly, for there are important standards—a tradition of excellence—to maintain.

It is always remembered that the art of interpretation rests on more than listing mere facts or pointing out things the unaided visitor would see. The interpreter makes use of things which his listeners can see for themselves, but he gets them away from the distractions of the roadside (when he can) and, more important, he organizes his facts into patterns. And the essence of interpretation is to be found, not in the facts, but in the form placed on them by a ranger-naturalist.

We might define his work as creating or communicating meaningful and memorable patterns of the things which the visitor sees. As such, it is an art rather than an exact science. For this reason the seasoned and thoughtful interpreter is usually the best; he draws on a wealth of examples and insights to make his points. Through long experience with his subject, he is able to treat it as a tantalizing and delicate mystery, artfully to be revealed, rather than as a simple fact to be bludgeoned into an uninteresting commonplace by loudspeakers, signposts, or inexperienced and incautious men pronouncing it by rote.

When interpretation is done well, we gasp at the performance. We have found a rare man, with whom the world seems in harmony. Beneath his fingers the dead and silent forest comes enchantingly alive and we see a wealth of life where before there had been dull forms of plants and earth. At his gesture the air is alive with a dozen joys—the noises of the wild massing clouds, or a passing bird—and we marvel that we could have missed such wonder before. At his

command the veils which shroud the past are one by one dispelled. The common landscape is not scenery, but drama, charged with the excitement of great forces working in grand concert through untold ages.

The works of the great naturalists, from Gilbert White to Thoreau and John Muir, convince us that there is an immeasurable store of riches for every man in the out-of-doors. The problem is tapping the resource effectively and adequately. In the interpretive division of the National Park Service, America has one of her finest vehicles for the enrichment of all.

So much of the modern world is disfigured with tension or darkened with pessimism. It is to keep man and his soul together that the ranger-naturalist resolves. In the quiet joy which millions of Americans find in their new appreciation of their heritage, the interpretive enterprise finds both its testimony and its rewards. ■

Trailside exhibits play important interpretive roles—but cannot wholly substitute for personal contact with the park naturalist.

Yellowstone National Park. Jack E. Boucher



The mysteries of tropical plant and animal life are interpreted to some Everglades National Park visitors who were willing—at least briefly—to leave their automobiles.

City of Miami (Florida) News Bureau



The Editor's



Bookshelf

EVERGLADES—THE PARK STORY, by William B. Robertson, Jr. University of Miami Press, Coral Gables, Florida, in cooperation with the Everglades Natural History Association, 1959. 88 pages. Illustrated. \$1.

This book is the most complete of its kind yet written on the Everglades National Park. Articles there have been in abundance, but none has been able to give the reader as balanced a perspective of the park's meaning as *Everglades—The Park Story*, by Park Service Field Research Biologist Robertson.

Eight chapters deal respectively with the Everglades landscape, natural history, mammals, birds, reptiles and amphibians, fish and invertebrates, plants, and man in the Everglades. The reader is informed how South Florida and the Everglades came into being and he is treated to an explanation of the mingling of temperate and subtropical influences in a landmass seventy-five miles north of the Tropic of Cancer. An accurate description of wildlife in the park includes mention of deer, raccoon, wildcat, otter, bear, panther, marsh rabbit, manatee, and porpoise. The intimacies of the greatest bird show on earth and the role of reptile and amphibian in a little-understood wilderness are unfolded. Mr. Robertson reminds us that the park's coastal waters provide a variety and abundance of marine life which South Florida's human and animal fishers have learned to appreciate. The aerial gardens and luxuriant vegetation, mirroring the humid summer and balmy winter Everglades climate, are classified and described to facilitate recognition when in the park. A concluding chapter significantly analyzes man's activity in this part of Florida from earliest Indian times to the coming of Miami's neon light glow.

The omission of an overall map of the Everglades Park is surprising, for it could not have failed to make meaningful the place-names referred to throughout the book. Such a map would ensure that the potential park visitor understands that automobile travel alone will not fur-

nish one with all the insights provided in the text. Nevertheless, the substantive matter of the book is essential and enjoyable reading for anyone wishing to appreciate the unique Everglades, preserved most nearly within national park boundaries; the forty-nine beautiful illustrative photographs are alone worth the price of this excellently produced book.

—Geoffrey J. Martin.

A Quick Glance at . . .

GEORGE PERKINS MARSH, Versatile Vermonter, by David Lowenthal. Columbia University Press, New York, 1958. 442 pp. Illus. \$6.50.—A biography of the lawyer, diplomat and scholar whose pioneer work in geography helped develop the conservation movement. Marsh was the first man to study comprehensively man's role in modifying his own environment and to point toward an intelligent husbanding of resources, believing that where forests are present, "trees, bird, beast, and fish, alike, find a constant uniformity of condition most favorable to the regular and harmonious coexistence of them all."

COMPLETE FIELD GUIDE TO AMERICAN WILDLIFE, by Henry Hill Collins, Jr. Harper and Bros., New York, 1959. 683 pp. Illus. \$6.95.—An authoritative handbook for field identification of all species of birds, mammals, reptiles, amphibians, food and game fishes and sea-shore life found in North America east of the Rockies and north of the Carolinas and Oklahoma. Because it is a regional book, this guide furnishes a variety of detail necessary to identify over 1400 living forms in the area it includes. Data on habitats, life zones, habits, voice and reproduction are supplemented by numerous range maps, charts and illustrations (800 species in black and white and 700 in full color).

ADVENTURES IN NATURE, Selections from the Outdoor Writings of Edwin Way Teale. Dodd, Mead & Company, New York, 1959. 304 pp. Illus. \$4.—Thirty-one selections from a half-dozen of the author's earlier works. The author shares with his readers a warmth and enthusiasm for what he observes in his travels from the Maine Woods to the Indiana dunes, to Florida, and the California coast.

Christmas Gift Suggestions

BOOKS

Exploring our National Parks and Monuments

by Devereux Butcher

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by Devereux Butcher

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Conservation News Briefs

Quakes Detected Beneath Volcano

Recent bulges in the earth's surface near Kilauea Crater in Hawaii National Park, normally thought of as a prelude to an eruption, are now subsiding according to a report by the Geological Survey Volcano Observatory on the rim of Kilauea. Instrument data would appear to indicate that pressure was relieved by a migration of the deep-seated lava along the southwest rift zone of the volcanic cone.

Disturbances now being detected beneath the crater, including a swarm of new earthquakes, seem to indicate the start of a new cycle of activity. The observatory staff anticipates that bulges will reappear in a few months in response to the presently indicated upward motion of lava.

Predictions of eruptions and the recording of earthquake phenomena are important phases of the work needed in developing warning systems to avert danger to life and property in volcanic areas. Scientists have been working at the Hawaiian Observatory for 37 years and an amazing amount of data has been recorded and put to use.

The Island of Hawaii is an ideal outdoor "laboratory." Here one can see new land being formed and observe the action upon it of all the forces of nature—wind and weather, rivers and ocean, growing things and frequent earth tremors. The island has three active volcanoes, Kilauea, Mauna Loa and Hualalai.

Olson Appointed to Board

Sigurd F. Olson, of Ely, Minnesota, former president of the National Parks Association, and Robert G. Sproul of Berkeley, California, president emeritus of the University of California, were appointed by Secretary of the Interior Seaton as members of the Advisory Board on National Parks, Historic Sites, Buildings and Monuments. They will succeed Walter L. Huber, of San Francisco, California, and Harold S. Wagner, of Akron, Ohio, whose six-year terms expired last June 30.

Sill Expansion Plans Dropped

In a surprise announcement issued in Washington, D. C., on September 12, the Department of the Army called off plans to expand Fort Sill's missile range by purchasing adjacent farm land in southwestern Oklahoma. The decision, according to the National Wildlife Federation, ended a 21-month battle between the Army and those who opposed the expansion, particularly members of the Southwest Oklahoma Survival (SOS) Association.

Conservationists watched the conflict with unusual interest because the Wichita Mountains National Wildlife Refuge would have been almost completely encircled had the proposed expansion become fact. The Army previously had unsuccessfully sought to take over portions of the refuge in what became an important national conservation issue over military land needs.

A representative of the Department of the Army said recent rapid developments in "in-flight" missile control measures promise greater safeguards and diminish the need for larger impact areas. Officials indicate it will be possible to fire several types of missiles on the present ranges. Oklahoma's Senator Robert S. Kerr says he has been notified that long-range missiles would be fired at Fort Bliss, Texas and White Sands, New Mexico ranges. Fears that Fort Sill might be abandoned unless additional land was acquired were also stilled by the announcement.

Week Stresses Water Value

The U. S. Department of Agriculture will seek to promote a better understanding among rural and urban people of their mutual interests in the soil, water, forest, and wildlife values of their local watersheds during National Farm-City Week, November 20-26.

While farmers and ranchers, who control our farmlands, rangelands and woodlands, control to an important degree the movement of water that falls on their property, the public lands including national and state forests and parks and public domain are equally important to the water supply of America's watersheds. Water problems are hence of equal concern to both farm and city people.

Fact sheets emphasizing the need to work together to solve our growing water

problem are available from the Department's Office of Information, Washington 25, D.C. A 13½ minute black and white motion picture for television use can be obtained from the Motion Picture Service of the Department, or through local chairmen of Farm-City Week. Further information on Farm-City Week may be obtained from the National Farm-City Week Committee, Kiwanis International Building, 101 East Erie Street, Chicago 11, Illinois.

Conservation Film Available

Adventuring in Conservation, an informational film on basic conservation principles and practices, is available for showing for upper elementary and junior high school conservation units, school camp programs, state and local conservation groups, camp leadership programs, and summer camp programs. The film is produced by the Audio-Visual Center, Indiana University, Bloomington, Indiana in cooperation with the American Camping Association and the Lilly Endowment, Inc. It can be purchased from the Audio-Visual Center.

Oregon Seashore Hearings

Some thirty-one witnesses took nearly nine hours on October 5, 1959 in Reedsport, Oregon to present their testimony for and against the proposed 35,000-acre Oregon Dunes National Seashore in the Siuslaw and Umpqua River area of Oregon's south-central coast. The hearings before a subcommittee of the Senate Interior and Insular Affairs Committee were to resume on October 7 in Eugene.

Strong opposition to the proposal was voiced by representatives of the Western Lane Taxpayers Association and Florence residents having homes in the proposed area, as well as by lumber interests and the U.S. Forest Service. Oregon's Governor Mark Hatfield has stated publicly that he opposes the current legislation, but might be receptive to modifications thereof. Witnesses were questioned closely by Senator Richard L. Neuberger and Congressman Charles O. Porter, sponsors of the legislation in the Senate and the House.

Several supporters of the proposal have urged expansion of its boundaries to include dunes south of the Umpqua River as far as Ten-Mile Creek. Testi-

mony included in a report by William S. Cooper, professor emeritus of botany at the University of Minnesota, described the dunes to the south as "the most impressive and beautiful coastal dunes on the North American continent." Cooper went on to urge, however, that the Sea Lion Caves be incorporated into the Oregon State Park system, rather than being included in the national seashore. Other proponents included the Oregon Coast Association, William Tugman, editor of the *Reedsport Port Umpqua Courier*, the Douglas County Park Board and the Wildlife Management Institute.

Further details will be reported in the December issue of NATIONAL PARKS MAGAZINE.

BULLETIN: *A Senate Interior Committee hearing on the proposed Great Basin National Park will be held in Ely, Nevada on December 5, 7 and 8. (See Great Basin "Sky Island" in our August magazine.)*

ALPINE LAKES

(Continued from Inside Front Cover)

fect the immediate environment of Waptus and Pete Lakes, two exceptionally scenic lakes. Although only part of the proposed logging would be visible from their shores, the lakes would be rendered too accessible; their wilderness setting would be seriously impaired.

It appears nothing but an avalanche of protests, both local and nation-wide, can save less-remote Cooper Lake, now immediately threatened with intensive logging. In some ways this is the finest wilderness lake of all, with its woodsy atmosphere and vista of glacier-patched peaks. Furthermore, its protection is vital to the unity of the wilderness as a whole.

The Limited Area itself would be breached at at least two important points—Fish Lake Meadows and upper Icicle Creek. The latter sizeable roadless area now supports an important saddle horse and packing business, which its owners feel would be severely damaged by proposed developments. Local communities are discussing the pros and cons of these proposals. Several well-known conservationists are planning to visit the area soon. Clearly the region's potentialities for high-class recreation should be evaluated by our leading scenery specialists and recreation planners. ■

Your NPA at Work

NPA ON GLACIER PEAK

In a statement presented at the Forest Service hearing in Bellingham, Washington on October 13, 1959, the National Parks Association went on record favoring the establishment of a Glacier Peak Wilderness Area in the North Cascades—but a greatly enlarged area which would (1) include the valley floors as well as the ridge tops; and (2) return to the original 800,000 acre proposal made by the Forest Service in the late 1930's. While urging that the region reaching north to the Skagit River and northeast an even greater distance through magnificent glacier-covered alpine country be included in the presently proposed wilderness area, the Association also asked for careful consideration of the possibility of providing wilderness status for the region north to the Canadian border.

The NPA statement, presented by Association member John Osseward of Seattle, Washington, notes in passing:

Many persons concerned with wilderness protection feel that there should be a new national park in the Northern Cascades which would include the area which the Forest Service now has in mind as a possible wilderness area . . . It is well known that national park status would give the region a higher degree of protection in some respects than would status as a wilderness area . . . However, the question of park status for these portions of the Northern Cascades is not before us in these hearings.

With respect to the exclusion of most of the timbered valley sections of the region, the Association commented:

We believe that the valley floors reaching in toward the center of the proposed area should be included within the wilderness. As the outlines of the area now stand, the long narrow portions stretching out from the central region can easily be cut off and eliminated as wilderness by the construction of roads across the narrowest sections. . . You are not sacrificing very much commercially when you give us the ridge tops, the glaciers, and the peaks, beautiful as they may be.

"Drive-in Wilderness" Hit

The fallacy in Forest Service plans

to provide a "drive-in wilderness" by constructing roads into these valleys which penetrate deep into the heart of the country was also noted by the NPA statement:

Wilderness by definition is roadless country, accessible only by foot or horse, and for that reason we consider the construction programs contemplated here to be objectionable. The canyons and valleys of the region should be an integral part of the wilderness which is to be preserved, and should therefore be roadless areas.

The Northern Cascades region is a part of America which has thus far miraculously escaped the kind of destruction which has been visited upon too much of our forest and wilderness lands. Great as our economic needs may be for wood and wood products, there is a growing conviction that the need to preserve some of these untouched regions is of even greater importance.

EDITOR VISITS NORTHWEST

Editor Bruce M. Kilgore's two-week field trip in early September began with attendance—as an observer—at the Labor Day convention of the Federation of Western Outdoor Clubs, Norden, California. Following these sessions, he flew to the Northwest to begin on-the-ground study of the problems of use and preservation of Mount Rainier National Park and the surrounding north Cascade country of Washington.

Attendance at the monthly meeting of the Mountaineers in Seattle afforded an opportunity to meet a number of Association members—including many prominent conservationists in the Northwest. The Mountaineer Board arranged a special plane trip over the region now being considered for inclusion in the proposed Glacier Peak Wilderness Area. The Sierra Club kindly provided the expert guide services of Association member David R. Simons for a short backpacking trip through the region.

En route back to Washington, D. C., a special one-day stop in Chicago permitted consultation with various Association members interested in forming an NPA Program Group there.



LETTERS TO THE EDITOR

Parks in the Classroom

Your September issue of the NATIONAL PARKS MAGAZINE held special interest for me. My 1938 Masters Thesis at the University of Cincinnati was entitled "Enrichment of the Curriculum through the use of the National Parks and Monuments." Since then and up until three summers ago I was a Seasonal Park Naturalist for the National Park Service.

My wife and I have produced a dozen hour 16mm color movies on the parks besides thousands of slides that I use in lectures. I have lectured all over the Middle West and to some extent in the East. In addition I have for the past ten years been giving a course on the national parks at the Evening College of the University of Cincinnati which allows one professional credit for it.

Since I presently have the position to develop the education concepts of the Hamilton County Parks and since the schools are making more demands on our naturalist time for lectures, field trips, etc. it occurred to me that we could offer a leadership training course so the teachers could use the parks on their own with some assistance from us. The fact that I have had teachers from every level and subject matter causes me to feel the project has been very successful.

J. HERBERT HEGER
Cincinnati, Ohio

May I begin by expressing my real pleasure at the fine coverage given in your Special Education Issue of September. Having been keenly interested in the need to get our conservation story into the schools, I find this a most heartening contribution. If we can reach enough children with our program, the future of our parks is secure.

RUSSELL K. GRATER
Regional Naturalist
National Park Service
San Francisco, California

Detects "Goops"

Your Special Education Issue, September 1959 is probably one of the greatest contributions to conservation any conservation group has ever made. However, I have noticed two "goops" that should be corrected as soon as possible. First, at bottom of page 15 you mentioned State Soil Conservation Service. I doubt if any state has a Soil Conservation Service. Second, on page 16 under item 16 you state that the national park system is composed of 180 acres. This is too small an acreage.

RAY LANE
Havana, Illinois

• While the official name is normally Soil Conservation "Committee," "Board," or "Commission," rather than "Service," each state *does* have its agency concerned with soil conservation. The term *acres* is incorrect and should have been *areas*.—Editor.

Population and Parks in 2000

Clawson's startling facts (*Our National Parks in the Year 2000* in the July 1959 NATIONAL PARKS MAGAZINE) about the "population explosion" and its effect on future recreational demands was the basic theme of the Western Resources Conference this summer at Boulder. When I was in school (about a hundred years ago) the Malthusian boys had it all figured out about future population. Because the increase of fruit flies in a bottle gave a certain graph, they said the same applied to humans. As I remember it, the population of the United States was to level off at about 160 million and remain then pretty much stabilized. Well, they were wrong—definitely.

However, they were the top biologists of their day. Now it seems to me the first thing we ought to do is to get a conference or meeting of present-day biologists to tell us what they think is the meaning of this "explosion," how long they believe it will last, and to what extent it will increase the population. Possibly this has already been done. But if so, certainly no very widespread public notice has resulted.

If this rapidly increasing rate is a grade A crisis, and I believe it will prove to be, why are our only efforts directed at trying to stay ahead of it? Why aren't some of our vaunted scientific brains and resources directed at trying to discover means of slowing it down? An absolute method of birth control is known and brave pioneers, like Dr. Raymond Cowles, have suggested graduated taxes which increase with each additional child in a family.

The reasons are that economics, politics and religion encourage and abet the "population explosion." In fact, "Be fruitful and multiply," seems to be one of the few precepts of [the] Bible that the human race takes seriously. And, of course, economists can argue that 6 million diapers a year give us more income than 4 million. However, there's no question that we're coming to the point where overly large families are against the public interest.

Tucson is, I believe, the fastest-growing city in the United States. From 44,000 in 1950 it is now well over the 200,000 mark. Taxes have mounted to a startling degree and we nearly had a tax strike of citizens last year. We have recently built three 5-million-dollar high schools, and school taxes constitute 51 percent of the total. Many of us are beginning to wonder why we are saddled with the education of thousands of children, the parents of many of whom pay no Arizona real estate or income taxes. We believe if people want the questionable luxury of large families, they should pay for them. If they did, I think it might go quite a ways toward slowing down the "population explosion."

All this may seem far away from *The*

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National Parks in the Year 2000. But I don't believe I'm pessimistic in stating that providing for an increase of 40 times, or even 10 times, is an absolute impossibility, so far as national parks are concerned. So, I think it behooves us to look at the cause and see if something constructive cannot be done in that direction. Instead of the symptoms, let's go to the disease.

WELDON F. HEALD
Tucson, Arizona

Of course there is no question about the need of National Parks Association taking energetic leadership in the matter of the impact of explosive population on such use of National Parks that can even result in their tragic impairment. Is not the need to build and build herein quickly public opinion?

Letters to the editors (if held to 150 words and sent persistently, always in the name of some new mountaineer, with no single one writing more often than 90 days) get past the editorial blue pencil. Groups of mountaineers in every city using this strategy would give publicity

that would be very expensive if bought by a department store or super-market.

Then, there is the value of organized Speakers' Bureaus and seeing that they get invitations to Luncheon Clubs and other clubs. Here we have a rare opportunity to use kodachrome slides or colored movies. In fact, does not such visual education make a deeper impression than the spoken word? Lastly, in organizing either letter-writing groups or speakers' bureau groups from a lot of enthusiasts in any community, this writer finds a binding force in such meetings as a Kaffeeklatsch. After the meeting sometimes divergent opinions are developed. Then, with a Kaffeeklatsch or fruit punch and a few cookies, certain developed acidity is corrected.

C. M. GOETHE
Sacramento, California

Schools to Get Education Issue

Some time ago you will remember I wrote you re your leaflet on National Park Policy [reprint appeared in May 1959 issue] which I thought was very excellent. I felt that copies of these

should be in our teacher training colleges in particular and of course in libraries. Then you came out with this last wonderful issue on parks, your educational issue which answers so much that I wanted to know in condensed form—result now is: the budget allowed was for both of these publications which are to be mailed to approximately ten colleges or more in Oregon and Washington.

EMILY H. HAIG
Board Member, NW Chapter
Sierra Club

Yellowstone Earthquake

I have been expecting some bulletin or article in the NATIONAL PARKS MAGAZINE with reference to the earthquake in Yellowstone and Grand Teton. Are you in a position to release up-to-date information on this?

FRED F. GREDIG
Burlington, Iowa

● See *Earthshaking Events in Yellowstone* on page 2.—Editor.

OUR NATIONAL PARKS

By Edward Roesken

Our thanks we give, dear God, to Thee
For parks that range from sea to sea:

*For canyons grand, formed by Thy Hand,
Where temple, throne and tower stand
In sunset's lambent, flaming hues—
Amazing mauves and glowing blues.*

*For lakes beyond whose far shores rise
Sheer snow-crowned crags against fair skies;
Sun's slanted rays through redwoods tall;
White wisp of distant waterfall.*

*Notched mountain crests with glaciers pent,
Stone rainbow arch and monument;
Trees petrified, from ancient days;
High plains where elk and bison graze.*

*Long skyline parkways, looking down
On forest, river, farm and town;
Deep cavern halls, with forms unique;
Cliff dwellings that of lost tribes speak.*

*Uncharted, mystic everglades;
Bold, plunging, lunging, proud cascades;
Great geysers, faithful to the hour,
As they jet high with sudden power.*

Almighty Father, grant that we
May ever prize these gifts from Thee.

Vernal Falls, Yosemite National Park, California.

Photo by Philip Hyde.





Zion National Park, Utah

